R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

ALLOWABLE SUBJECT MATTER

The Examiner's allowance of claims 1-15 and 23-29 and the Examiner's indication of the allowability of the subject matter of claim 22 are respectfully acknowledged.

Claim 22 has been amended so as to be rewritten in independent form to include all of the limitations of its parent claim 16, and intervening claims 19 and 21. Accordingly, it is respectfully submitted that amended claim 22 is now in condition for immediate allowance.

CLAIM FEE

The application was originally filed with 29 claims of which 4 were independent. The application now contains 29 claims, of which 5 are independent. Accordingly, a claim fee in the amount of $86.00 for the addition of 1 extra independent claim. In addition, authorization is hereby given to charge any additional fees which may be determined to be required to Account No. 06-1378.

CLAIMS 16-21

Claim 16 has been amended to clarify the feature of the present invention whereby an electromagnetic drive is provided which comprises at least two coils connected magnetically in series whose winding axes lie perpendicular to a direction of the luminous flux, and a movable plunger that is movable along one of the winding axes by a magnetic force of the coils, as supported by the disclosure of the specification at, for example, page 26, lines 4-6. (See also Fig. 13, wherein coils 45, 47 are connected in series in electromagnetic unit 42 to move the plunger 49 along the winding axis of coil 45.)

In addition, dependent claims 17-21 have been amended to better accord with amended independent claim 16.

No new matter has been added, and it is respectfully requested that the amendments to the claims be approved and entered.

It is respectfully submitted, moreover, that amended independent claim 16 and dependent claims 17-21 patentably distinguish over newly cited USP 4,316,661 ("Saito").

According to the present invention as recited in amended independent claim 16, an electromagnetic drive is provided for controlling an amount of light of a luminous flux, wherein the electromagnetic drive comprises: (i) at least two coils connected magnetically in series whose winding axes lie perpendicular to a

direction of the luminous flux; (ii) a movable plunger that is movable along one of the winding axes by a magnetic force of the coils; and (iii) a blade member driven by the movable plunger for controlling the amount of light of the luminous flux.

That is, as shown in Fig. 13 and as described in the specification at page 24, lines 3-14, the electromagnetic unit 42 is provided with two coils 45 and 47 (which are connected in series) to drive the single plunger 49 along the winding axis of coil 45. When a current is supplied to the coils 45 and 47, a magnetic flux is generated in the coils 45, 47, and a looped magnetic circuit is formed in the electromagnetic unit 42. This magnetic circuit is turned on and off to control the movement of the plunger 49. Thus, the coils 45 and 47 are connected magnetically in series to drive a single plunger 49.

As pointed out in the specification at page 26, lines 4-10, moreover, since the solenoid in the electromagnetic unit 42 is formed of two coils connected in series, the outer diameter of the coil can be smaller than in the conventional single coil seen, for example, in Fig. 20. Thus, the electromagnetic unit 42 can be placed in a smaller space between the taking lens and the lens frame, and the outer diameter of the lens frame can be reduced.

As recognized by the Examiner, Saito discloses a plurality of "solenoids" 14 and 16 in Fig. 1 and 51 and 53 in Fig. 3.

Significantly, however, in the apparatus of Saito the respective "solenoids" control respective different parts. That is, as disclosed at column 3, lines 3-7 and column 4, line 59 to column 5, line 12 of Saito, the control device 14 controls the opening and closing of the leading blade 2 and the control device 16 controls the opening and closing of the trailing blade 4. And as disclosed at column 4, lines 38-41, the reference numerals 51 and 53 denote respective leading and trailing shutter blade drive power sources or electrically operated magnetic devices of the plunger type.

Accordingly, it is respectfully submitted that Saito does not disclose, teach or suggest that the electromagnetic devices 14 and 16 or 51 and 53 may be connected magnetically in series such that a movable plunger is movable along <u>one</u> of the winding axes by a magnetic force of the <u>coils</u>. In fact, it is respectfully submitted that the coil structure disclosed by Saito is merely a single coil structure of the conventional type shown in the prior art of Fig. 20 of the present application. And it is also respectfully submitted that Saito can not achieve the advantageous effects of the structure of the present invention as claimed in claim 16 whereby at least two coils are connected magnetically in series to drive a plunger along one of the winding axes to reduce the space required for the electromagnetic drive.

In view of the foregoing, it is respectfully submitted that amended independent claim 16, as well as claims 17-21 depending therefrom, all patentably distinguish over Saito, under 35 USC 102 as well as under 35 USC 103.

RE: IDS FILED MARCH 12, 2002

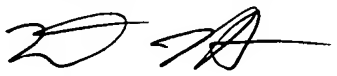
It respectfully submitted that the Examiner's initials and signature on the Form PT/SB/08A submitted with the IDS filed March 12, 2002 are unclear. It is respectfully requested, therefore, that the Examiner confirm that the document listed therein has been considered and made of record.

* *

Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



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